

**REMARKS**

Applicants and the undersigned are most grateful for the time and effort accorded the instant application by the Examiner.

Claims 1-9 were pending in the instant application at the time of the outstanding Office Action. Of these claims, Claims 1 and 6 are independent claims; the remaining claims are dependent claims. All of the claims have been amended and Claims 10-19 are newly added claims directed toward novel aspects of at least one embodiment of the present invention.

Applicants respectfully submit no new matter has been added by the present amendment. Support for the amendment can be found generally throughout the text. Moreover, Applicants intend no change in the scope of the claims by the changes made by this amendment. It should be noted this amendment is not in acquiescence of the Office's position on the allowability of the claims, but merely to expedite prosecution.

It is respectfully submitted the presently claimed embodiment of the invention is patentably distinct over the art; therefore, the Office is respectfully requested to reconsider the rejections presented in the outstanding Office Action in light of the following remarks.

**Double Patenting Rejection**

Claims 1-4 and 6-9 were provisionally rejected under the judicially created

doctrine of obviousness-type double patenting. Per the outstanding Office Action, claims 1-4 and 12-13 of co-pending U.S. Application No. 10/926,532 are said to encompass the subject matter of Claims 1-4 and 6-9 of the present application.

However, the claims as amended are clearly directed toward hydrogenated nitrile rubber (HNBR) and shaped articles comprising the same. Since the claims of the cited co-pending application neither teach nor suggest to one skilled in the art an adhesive polymer comprising HNBR, as claimed herein, it is respectfully submitted the claims of the two applications are directed toward patentably distinct inventions for which each is independently entitled to full patent protection afforded under the law. Therefore it is respectfully requested that the double patenting rejection be withdrawn at this time.

**Claim Objections and Rejection under 35 U.S.C. § 112, Second Paragraph**

Claims 1-9 are objected to because the independent claims, when given their broadest interpretation by the Office, were found to be directed toward a composite comprising an NBR, which was found to be unclear as to whether the same was a composite or a compound. It is respectfully submitted the claims complained of are clearly drawn to a composite and should be given their broadest reasonable interpretation consistent therewith. In order to reach the ambiguity asserted by the Office the claims must be interpreted as being limited by the transitional phrase "consisting of" instead of being interpreted in light of the transitional phrase actually used, which is "comprising." Since "[c]omprising...is inclusive or open-ended and does not exclude additional, unrecited elements or method steps" the use of composite is not

unclear where only nitrile rubber polymer is recited. (MPEP 2111.03 [R-3]) Claim 5 stands objected to on related grounds. Claim 5 has been amended to address the Examiner's concerns.

Claims 7-9 stand rejected under 35 USC 112, as being indefinite for lacking antecedent basis for the use of "compound." Claims 7-9 have been amended and the word "compound" deleted.

It is respectfully submitted the present claims particularly point out and distinctly claim the subject matter which Applicants regard as their invention. Therefore, Applicants request the present objections and rejections be withdrawn at this juncture.

**Claim Rejection under 35 U.S.C. § 102(b)**

Claims 1-2, 4-7 and 9, Claims 1 and 4-9, and Claims 1-9 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Hechtman, USPN 2,714,562, Hori et al., USPN 3,600,268, and Hoover, USPN 2,656,292, respectively. The Applicants respectfully traverse the Office's rejections and to the extent the Office may apply the same rationale to the presently amended claims the following points are being offered for the Office's consideration.

**HECHTMAN**

As best understood, Hechtman appears to relate to a self-sealing wrapping material. The Applicants respectfully disagree as to the interpretation given the reference by the Office as well as its anticipation of the present invention. As indicated in the Office Action, "Hechtman discloses a composition, used as a self-adhering

material, containing a mixture of a natural rubber resin and a low-molecular weight acrylic nitrile butadiene copolymer that exhibits excellent adhesion, has good cohesive properties and adheres to paper, cellophane, metal and the like." (Office Action Pg. 6) Throughout Hechtman, however, a point is made to distinguish the material's good self-adhesion properties, i.e. cohesion, from its poor adhesion properties - the latter being clearly undesirable for accomplishing the invention's purposes. Thus the patent consistently refers to the inventive material as "the cohesive, substantially non-adhesive material." As set forth by Hechtman, "The wrapping material...consists essentially of...a flexible coating or film of self-adhering material which is substantially dry to the touch and substantially non-tacky but which is cohesive even under light pressure, and yet which is for all practical purposes non-adhesive to a surface such as paper, cellophane, metal, wood, glass, etc., devoid of said material." (Col. 2, lines 13-22) Thus the referenced material is clearly not a strong adhesive, if considered one at all.

As set forth by Hechtman, the "cohesive, substantially non-adhesive film" is a "[c]omposition containing a mixture of natural rubber and a ... acrylic nitrile-butadiene copolymer...." (Col. 2, lines 36-39). In the preferred example and teaching the mixture appears to include a natural rubber, an acrylonitrile(co-butadiene) copolymer, and one or more rosin alcohols. (Col. 2, lines 43-54) Said rosin alcohols may be up to up to 50% of the weight of the copolymer. (Col. 2, line 53) Hechtman also suggests to one skilled in the art the necessity of including natural rubber in the mixture so as to achieve the purposes of the invention. (Col. 2, lines 59-63). It should also be noted, the Hechtman

invention appears to be in the form of a Latex material.

In stark contrast to Hechtman stands the present invention in which, at least one embodiment, relates to an adhesive polymer. Claim 1 recites, "An **adhesive polymer composition** comprising a **hydrogenated nitrile rubber polymer** having a Mooney viscosity (ML 1+4 @ 100°C) below 30." (Emphasis added. Note, similar language also appears in Claim 6) "Hydrogenated nitrile rubber (HNBR), [is] prepared by the selective hydrogenation of acrylonitrile-butadiene rubber (nitrile rubber; NBR, a co-polymer containing at least one conjugated diene, at least one unsaturated nitrile and optionally further comonomers)" (Page 1) Since Hechtman discloses a substantially non-adhesive mixture of natural rubber, co-polymer, and rosin alcohols, in which hydrogenated nitrile rubber with a Mooney viscosity below 30 is not taught, Hechtman fails to teach either expressly or inherently the presently claimed embodiment of the invention. Applicants respectfully submit that the applied art does not anticipate the present invention because, at the very least, "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under construction." *W.L. Gore & Associates, Inc. v. Garlock*, 721 F.2d 1540, 1554 (Fed. Cir. 1983); see also *In re Marshall*, 198 U.S.P.Q. 344, 346 (C.C.P.A. 1978).

Applicants request the withdrawal of the present anticipation rejections based on the Hechtman invention.

**HORI ET AL.**

As best understood, Hori et al. disclose a surface protective sheet having "[a]

flexible plastic sheet ... and a cured acrylic rubber layer ... made by crosslinking a synthetic rubber consisting mainly of acrylic ester." (Col. 2, lines 24-28) Hori et al. further disclose copolymerization of the acrylic ester with ethylenically unsaturated monomers including acrylonitrile and butadiene. (Col. 3, lines 1-5) It is clear however that the copolymer disclosed must contain acrylic ester and moreover must have at least 50 mol percent of the copolymer being acrylic ester, if not more, otherwise the invention will not work. (Col. 2, line 57; Col. 2, lines 70-72)

It should also be appreciated that while the theoretical copolymerization of an acrylic ester (co-butadiene, co-acrylonitrile) is disclosed, the actual examples relate to no such copolymer. The Office directs attention to Example 4 by Hori et al., which is opined to be related to a mixture of acrylonitrile, butyl acrylate, ammonium peroxide, sodium metabisulfite and sodium lurate. The Applicants would like to note the copolymer is not an acrylonitrile-butadiene polymer, since the copolymer of the example fails to include butadiene. Finally, it should also be noted Hori et al. disclose the generalized copolymer having a Moony value of 20 and in the examples provide Moony values above 20.

As indicated above, the presently claimed invention comprises a hydrogenated nitrile rubber polymer. No such hydrogenated rubber is set forth by Hori et al. Since Hori et al. fail to teach or suggest all of the presently claimed limitations of the invention the outstanding anticipation rejection should be properly withdrawn.

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**HOOVER**

As best understood, Hoover relates to non-adhesive liners. In one embodiment the non-adhesive, non-sticking liners are “[m]ade entirely from thin sheets or self-sustaining films of a homogeneous mixture of a vinyl halide polymer with an interpolymer of a butadiene-1,3 hydrocarbon and an acrylic nitrile.” (Col. 2, lines 34-41) The preferred embodiment of the Hoover mixture/blend is a vinyl chloride polymer and butadiene(co-acrylonitrile) copolymer.

In stark contrast to the non-adhesive non-sticky mixture of Hoover, the present invention relates to, in one of the claimed embodiments, “An **adhesive polymer composite comprising a hydrogenated nitrile rubber polymer...**”. (Claim 1)(emphasis added) Hoover is a blend of two copolymers resulting in a non-adhesive material. Furthermore, Hoover fails to suggest or teach a hydrogenated nitrile rubber polymer as presently claimed. Therefore, Hoover fails to teach all the presently claimed limitations of the claimed embodiment of the invention and the rejections based thereon should be withdrawn.

Applicants would also like this opportunity to note that the hydrogenation of the a nitrile rubber in which the viscosity is maintained or lowered is clearly not suggested to one skilled in the art viewing the cited references since, *inter alia*, as is generally known in the art the hydrogenation of rubbers normally increases viscosity. As set forth in the Applicants' disclosure, the hydrogenation of NBR forming HNBR results in an increase to the Moony viscosity, e.g. a Mooney Increase Ratio (MIR) of 2.

Commercially available HNBR generally has a Mooney viscosity of 55-105. To the extent that the Office may deem it fit to apply the art vis-à-vis an obviousness rejection, Applicants respectfully submit the invention as presently claimed is non-obvious in view of the cited art.

For the aforementioned reasons it is again respectfully submitted the cited art fails to teach all the limitations of the presently claimed invention. Therefore, the claims are patentably distinct over the cited art. By virtue of dependence from what are believed to be allowable independent claims 1 and 6, as well as in their own right, it is submitted that claims 2-5 and 6-19 are also presently allowable.

The "prior art made of record" has been reviewed. Applicants acknowledge that such prior art was not deemed by the Office to be sufficiently relevant as to have been applied against the claims of the instant application. To the extent that the Office may apply such prior art against the claims in the future, Applicants will be fully prepared to respond thereto.

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In summary, it is respectfully submitted that the instant application, including Claims 1-19, is presently in condition for allowance. Notice to the effect is earnestly solicited. If there are any further issues in this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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